Nigerian Macro Socio-Economic Variables as Determinants of Self Employment: A Gender Perspective

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ABSTRACT

This study examines the rationality behind men and women engaging in self employment and investigates whether the Nigerian macro socio-economic variables are significant determinants of self employment for both men and women. The incidence of unemployment in Nigeria which is as a result of its mono economy has been a predominant issue that has been prevailing for decades. Thus, rather than for occupational choice, men and women resort to self employment as a necessity for survival. Alternatively, self employment is important for an economy as it serves as a factor in poverty alleviation. Thus this research tests the significance of macro socio-economic variables; urbanization ratio, availability of paid employment, absolute poverty level, average years of schooling, average number of child per household as determinants of self employment participation by employing the multiple regression analysis to determine the causal relationship between the macro socio-economic variables and self employment. The premise that macro socio-economic variables are not important drivers of self-employment involvement was true exclusively for women in this study. As a result, the data imply that macro socioeconomic factors in Nigeria are only major predictors for men who engage in self-employment, rather than women.

Keywords: Self Employment, Labour, Dominate, Nigeria, Multiple Regression

ÖZ

Bu çalışma, kendi hesabına çalışan kadın ve erkeklerin arkasındaki bu seçimlerinin rasyonaliteyi incelemekte veNijery'nın bazi makro sosyo-ekonomik değişkenlerinin hem erkekler hem de kadınlar için kendi hesabına çalışma kararının belirleyicileri olup olmadığını araştırmaktadır. Nijerya'daki mono ekonominin bir sonucu olarak ortaya çıkan yüksek işsizlik , on yıllardır hakim olan baskın bir sorun olmuştur. Bu nedenle, kadın ve erkekler, meslek seçimi yerine hayatta kalmak için bir gereklilik olarak kendi hesabına çalışmaya başvururlar. Alternatif olarak, yoksulluğun azaltılmasında bir faktör olarak hizmet ettiği için kendi hesabına çalışma ekonomiler için önemlidir. Dolayısıyla bu araştırma, makro sosyo-ekonomik değişkenler ile kendi hesabına çalışma arasındaki nedensel ilişkiyi belirlemek için çoklu regresyon analizini kullanarak, kendi hesabına çalışmanin belirleyicileri olarak mutlak yoksulluk seviyesi, hane başına düşen ortalama çocuk sayısı, kentleşme oranı, ücretli iş bulma olasılığı, ortalama eğitim yılı makro sosyo-ekonomik değişkenlerini test etmektedir. Makro sosyo-ekonomik değişkenlerin serbest meslek katılımının önemli itici güçleri olmadığı önermesi, bu çalışmada yalnızca kadınlar için doğruydu. Sonuç olarak, veriler Nijerya'daki makro sosyo-ekonomik faktörlerin kadınlardan ziyade kendi hesabına çalışma uğraşan erkekler için yalnızca ana belirleyiciler olduğunu ima etmektedir.

Anahtar Kelimeler: Serbest Meslek, Emek, Hakim, Nijerya, Çoklu Regresyon

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Chapter 1

INTRODUCTION

1.1 Research Background

In the early 1970s, Nigeria had an oil price boom, this event led to all the country's concentration on the petroleum sector at the expense of the agricultural and industrial sectors, thus, crippling the economy from transforming in the last forty years. (Sanusi, 2010). Olarewaju (2019) suggested that individuals in Nigeria tend to resort to self-employment as a means of survival. Although it seems to be necessary for survival, self-employment is essential for national economic growth. Nigeria, a low-income country has the deficiency of fundamental facilities and significant human and physical capital necessary for the creation of sustainable jobs and thus has a high rate of self employment which is driven by necessity (Olarewaju, 2019).

In a study by Nwaka et al (2021), the condition for engaging in self employment in Nigeria is the push effect, that is, people who engage in self employment do so for sustenance and necessity in order to survive because they are likely to experience poverty (Nwaka, 2021).

Therefore, this research aims to investigate whether macro socio-economic conditions are significant to push individuals to engage in self employment. The macro socio-economic conditions for this study are urbanization, poverty, level of education, wage and salaried employment and the average number of children per

household is examined as determinants of engaging in self employment in Nigeria. For instance, when urbanization is taken into consideration, Todaro et al (2012) proposed that, internal migration where individuals move from rural to urban areas within the country in search of better living standards seek employment in the formal sector but end up in the informal sector because the formal sector grows slower than the rate of migration (Todaro, 2012, p. 313). This suggests that insufficient wage and salaried jobs lead to self employment.

As reported by the General Household Survey (2020), women and men in Nigeria constitute about 56% and 43.1% respectively in self employment (National Bureau of Statistics, 2020). While both men and women have high representation in self-employment, this research examines whether in this sector macroeconomics variables are significant determinants for their self employment participation. However, men and women have been divided on the basis of their biological differences since the beginning of existence and this has consequently led to disparities in the various facets of the economy especially in terms of employment. According to Ejumudo (2013), the Nigerian society is based on the culture of patriarchy, where women in the society are treated as inferior while men have the primary position and this patriarchal culture is deeply rooted into various sectors of the economy and this has greatly affected the labour market conditions for men and women (Ejumudo, 2013).

For this research time series data on the macroeconomics variables from 1990 to 2019 are regressed in order to investigate their causal relationship with self employment as well as test their significance of determining self employment participation. However, since men and women have different experiences in the

labour market, this data will be disaggregated in order determine if the macroeconomics variables are significant to determine male and female self employment participation separately.

1.2 Research Questions

Are the Nigerian macro socio-economic variables significant factors for determining self employment participation for men and women?

1.3 Research Aims and Objectives

This research aims to test whether the macro socio-economic variables have a causal relationship with the self employment participation in Nigeria. The objective of this study is to examine if the macro socio-economic variables are significant determinants of male and female self employment participation.

1.4 Significance of Study

The significance of this research stands to elaborate if macro socio-economic factors have any effect on self employment participation among men and women in Nigeria who are within the working age population and demonstrate if these factors are significant.

1.5 Structure of the Study

This research begins with the first chapter which is the introduction that consists of research background, research questions, aims and objectives of the research, significance of the study and structure of the study. The second chapter describes the Nigerian economy and detailed analysis of the labour market as well as the position of men and women on the Nigerian labour market. In chapter three the relevant literature and the theoretical framework will be provided. Chapter four provide the data and the methodology of the study. Chapter five discusses the empirical findings of the study. Chapter six gives the conclusion and the policy recommendation of the

study; it also includes the limitation of the study and provides recommendation for future study.

Chapter 2

THE NIGERIAN ECONOMY AND LABOUR MARKET

2.1 The Nigerian Economy

With the advent of Nigeria's independence, the economy was mainly operating on agriculture, long after independence, the country began to adopt an industrial economy. The industrial sector consists of electricity, manufacturing and mining (crude oil). The inability of the agricultural sector to provide sufficient raw materials for the industry as well as exports led to the fall of this sector. This fall is due to the dominant industrial sector as well as a decline in productivity attributed to farmer's dependence on obsolete equipment and technology. As a result of discarding the agricultural and industrial sector, the social and economic infrastructure has been desecrated. The Nigerian economy solely depends on imports and the majority of its exports are on crude oil making about 90% of foreign exchange earnings. This puts the country at a disadvantage where oil shocks affect the entire economy. Inequality in income distribution and corruption which are amongst the predominant issues faced in Nigeria arise from bad leadership in the private and public sectors (Sanusi, 2010).

According to United Nations Food and Agriculture Organization (2021), Nigeria which was once a relatively large exporter of food now depend on imports for food, this is because the agriculture sector which is majorly subsistence in nature is insufficient to sustain the population at its growing rate (FAO , 2021).

In recent times, fluctuations in oil prices and Nigeria's sole dependency on the oil sector have made other sectors like agriculture, tourism, textile and industry to suffer and thus the economy as a whole. This situation has caused negative impacts such as insecurity, poverty. A person who earns less than $361 annual income is said to be living in poverty, thus in 2018, 40.1% of Nigerians were living in poverty. (World Bank Group, 2021). Insecurity in Nigeria which have been going on for more than a decade has been a menace to the country's economy and society causing 2,583,000 people to be displaced from their homes as of 2019 (World Bank, 2019).

2.1.1 Macroeconomic Indicators

Table 2.1 shows the main macroeconomic indicators; economic growth (GDP), inflation, unemployment level, budget and trade balance in Nigeria 2019.

Table 2. 1: Main macroeconomic indicators, Nigeria 2019.

Year	Economic growth (GDP)	Inflation	Unemployment Level	Budget	Trade Balance ($) '000'
2015	2.7%	9.00%	4.31%	-1.70%	-22,899,676.71
2016	-1.6%	15.7%	7.06%	-2.60%	-8,550,719.26
2017	0.8%	16.5%	8.39%	-3.20%	-86,132.01
2018	1.9%	12.1%	8.24%	-2.80%	-5,598,563.49
2019	2.2%	11.4%	8.53%	-4.20%	-30,893,479.54

Source: The data was computed from the World Bank development indicators (World Bank, 2019) and Statista Online Data Portal (Statista, 2021).

The evidence from table 2.1 suggests the year 2015 had the highest growth rate of the five years.. The following year had a negative growth as a result of the rise in unemployment, decline in real income and low industrial productivity. (World Bank, 2019). However, the subsequent years had positive growth rates increasing at a steady rate. The inflation rate for these years fluctuates, with the highest level being in the year 2017 caused mainly by the recession, poor leadership, the inadequacy of the monetary and fiscal policy, however, the adjustments and improvements of the

monetary and fiscal policy lowered the inflation level for the following years (Statista, 2021).

Unemployment has always been one of Nigeria's problem for decades, a reason for the annual rise in unemployment is due to the annual increase in population growth even though the country operates mainly on the petroleum sector and therefore, causing the imbalance of jobs to the increasing working-age population. (FAO , 2021) The budget deficit for the last five years, as a result of the Nigerian government spending more than its revenue, as well as debt from the previous years that rolls over to the next and keeps accumulating. The trade balances for all the years are negative, thus, making the country be in a trade deficit owing to the country's net imports exceeding the net export.

Nigeria's primary dependence on imports due to all its concentration on one sector for exports while abandoning the sectors, leaving them in situations in which the production is not sufficient to feed the nation and also export.

2.2 The Nigerian Labour Market

In 2019, Nigeria, which is the most populous nation in Africa, had about 202 million people out of which 49% is women (World Bank Group, 2020). Oluto et al (2015) observed that the Nigerian economy has insufficient resources as well as its inefficiency to take advantage of factors of production and thus find it challenging to take in graduates produced each year which causes the surge in unemployment (Olotu, 2015). The working-age population in Nigeria is between ages 15 and 64, which makes up the total labour force, except for, retirees, students, stay-at-home parents and persons uninterested in work (Kale, 2015).

The next section provides a summary of the Nigerian labour market indicators by gender, sector, occupation, and region.

2.3 Main Labour Market Indicators

This section provides information on the main labour market indicators categorized based on labour participation by gender and region, employment status by gender, employment by sector and gender as well as occupational distribution by gender.

2.3.1 Labour Participation by Gender and Region

Table 2.2 provides the labour participation rate in Nigeria categorized by gender and region as of the fourth Quarter of 2020.

Table 2.2: Labour participation by gender and region, Nigeria 2020

	Number					Percentage (%)		
	Population 15 and older	**Labour Force**	**Inactive**	**Employed**	**Unemployed**	**Labour Force Participation Rate**	**Employment to Population Ratio**	**Unemployment**
Male	61,627,657	39,523,050	20,898,692	18,333,745	21,189,305	65.41%	50.4%	64.7%
Female	60,421,742	30,152,418	31,475,239	12,238,695	17,913,723	34.59%	49.6%	35.3%
Total	122,049,399	69,675,468	52,373,931	30,572,440	39,103,028	100%	100%	100%
Rural	53,215,673	20,466,387	32,749,286	9,389,145	11,077,242	38.5%	48.3%	45.1%
Urban	36,459,237	29,209,081	7,250,156	16,295,788	12,913,293	61.5%	51.7%	54.9%
Total	89,674,910	49,675,468	39,999,442	25,684,933	23,990,535	100%	100%	100%

Source: Computed from the National Bureau of Statistics (NBS, National Bureau of Statistics, 2021) and the World Bank Development Indicators (World Bank, 2019)

The table shows how men have a higher working population and therefore their labour participation surpasses that of women by 30.82%. As a result of the male population being in the majority, they have about 0.8% higher employment to population ratio which is slightly higher than that of female population. The percentage rate of unemployment of the female population is less than the male unemployment rate by 29.4%, this is as a result of their lower labour participation rate. Alternatively, the labour force in the urban area exceeds the rural region, even though the rural region has a higher population density than in the urban region. Thus, the urban region has a higher labour participation rate as well as unemployment rate than the rural region, however, the difference in the employment to population ratio between the two regions is 3.4% which is not significant. The female inactive population is significant compared to the male inactive population, this is attributed to a lot of factors. Based on an article by Choudhary (2020), the reason why individuals are unwilling or unable to work is divided into either personal reasons or job-related reasons. Personal reasons such as: religion, marriage, family duties as well as an insufficient level of experience and education. On the other hand, job-related reasons are mostly unfavourable office hours as well as office distance. With the exception of family duties, men also have similar experiences as women for reasons of being inactive in labour (Choudhary, 10 Barriers In The Way Of Women's Participation In Labour Force, 2020).

2.3.2 Employment Status by Gender

Table 2.3 shows the employment status; Employer, Wage and Salaried Worker, and Own-account Worker, categorized by gender.

Table 2.3: Employment status by gender, Nigeria, 2019

	Employer		Wage & salaried worker		Own-account worker (self-employed)	
	'000	**%**	**'000**	**%**	**'000**	**%**
Male	751,684	81.4	4,235,095	87.3	13,346,966	56.1
Female	171,342	18.6	1,615,508	12.7	10,451,846	43.9
Total	923,062	100	4,850,603	100	23,798,812	100

Source: Computed from the World Bank Development Indicators (World Bank, 2019) and the National Bureau of Statistics (National Bureau of Statistics, 2020).

Employers are workers that have their own account or with partners, where their proceeds are solely based on the profits generated from the production of goods or services and thus, have the capacity to hire employees. Own-Account holders independently work for themselves or in partnership, where all their income comes directly from their business. Wage and salaried workers are individuals who have contracted jobs and receive wages and salaries, which are not solely based on the revenue their individual work generates. Therefore, the data from the Table 2.3 indicates that in all three employment status, the male employment surpasses that of women by about 20%.

2.3.3 Distribution of Employment by Sector and Gender

The data on the percentage distribution of employment in both Nigeria and Ghana on the basis of gender and the Agriculture, Industry and Service sectors are shown in Table 2.4.

Table 2.4: Sectoral distribution of employment by gender (%), Nigeria and Ghana 2019

Region	Gender	Agriculture (%)	Industry (%)	Services (%)	Total (%)
Nigeria	Male	44.89	11.22	43.89	100
	Female	26.14	11.95	61.91	100
Ghana	Male	40.36	17.97	41.67	100
	Female	26.04	19.32	54.64	100

Source: Estimated From the World Bank Development Indicators (World Bank, 2019).

In both Nigeria and Ghana, female workers dominate the industrial and service sectors while the male workers are in the, majority in agriculture sector. Thus, this provides evidence of gender based segregation in employment. According to Kotikula et al (2019), gender-based employment segregation is when there is disparity in the representation of male and female workers within or across various jobs. Horizontal segregation occurs when men and women are focused on different sectors and globally, women are concentrated in sectors with low productivity (Kotikula, 2019).

The Agriculture Sector in West African countries like Nigeria and Ghana contribute significantly to their countries' economy and therefore has a higher productivity than industry and services, therefore, the majority of male workers in Agriculture in both countries is as a result of horizontal segregation.

2.3.4 Occupational Distribution by Gender

The occupational distribution by gender is compared between Nigeria and Ghana which is also a West African country. Based on the statistical report of (World Bank, 2019), as opposed to Nigeria, Ghana has a population of 30,417,856 million people

and a Gross Domestic Product (GDP) of $66,983,634.223, which are both about 15% Nigeria's population and GDP. However, Ghana has a labour participation rate of 67.8% of the total population and thus, larger than the labour participation rate of Nigeria which is 55.9% of the total population.

Table 2.5 and 2.6 shows the occupational distribution by gender in Nigeria and Ghana categorized based on the latest version of the international standard classification of occupation (ISCO) known as the ISCO-08 published in 2008. This is was designed as a classification structure in order to organize jobs and labour information by the International Labour Organization (ILO) (ILOSTAT, 2020).

Table 2.5: Occupational distribution by gender, Nigeria 2019

S/n	Categories	Male		Female		Total		Dominance
		%	'000	%	'000	%	'000	
1	**Managers**	72.7	1,990,591	27.3	758,451	4.7	2,738,090	**Male**
2	**Professionals**	62.4	5,670,992	37.6	3,417,136	15.6	9,088,128	**Male**
3	**Technicians and associate professionals**	34.3	2,297,956	65.7	4,401,625	11.5	6,699,581	**Female**
4	**Clerical support workers**	47.9	865,062	52.1	940,913	3.1	1,805,974	**Mixed**
5	**Service and sales workers**	22.7	1,044,727	77.3	3,557,594	7.9	4,602,321	**Female**
6	**Skilled agricultural, forestry and fishery workers**	44.5	4,770,102	55.5	5,949,228	18.4	10,719,330	**Mixed**
7	**Craft and related trades workers**	62.6	8,132,593	37.4	4,858,769	22.3	12,991,362	**Male**
8	**Plant and machine operators, and assemblers**	92.8	3,676,264	7.2	285,227	6.8	3,961,492	**Male**
9	**Elementary occupations**	54.3	3,068,467	45.7	2,582,485	9.7	5,650,951	**Mixed**
	Total	58.1	33,847,450	41.9	24,409,779	100	58,257,229	**Male**

Source: Computed from General Household Survey Panel Data (National Bureau of Statistics, 2020).

The data from table 2.5 shows the occupational distribution by gender in Nigeria in 2019. Occupational categories that have male dominance are those where the male workers surpasses female workers by more than 15%, categories that have female dominance are those where the female workers surpasses male workers by more than 15%categories with mixed dominance are those where the differences in the participation between male and female workers is less than 15%. Accordingly, female workers in Nigeria have dominance in two occupations: 1.Technicians and associate professionals; health associate professionals, information and communications technicians, legal associate professionals. 2. Service and sales workers; personal care workers, sales workers. On the other hand, male workers dominate four occupations: 1. Managers; legislators, senior officials, administrative and production managers; 2. Professionals; Engineering professionals, health professionals, teaching professionals; 3. Craft and related trades workers; Building workers, electrical workers, handicraft workers; 4. Plant and machine operators; plant and machine operators, assemblers, mobile plant operators. The mixed dominance of both male and female workers: 1.Clerical support workers (Customer service clerks, secretaries); 2.Skilled agricultural forestry and fishery workers (Subsistence farmers, skilled agricultural workers); 3. Elementary workers (Cleaners, agricultural labourers, refuse workers) (ILOSTAT, 2020).

Table 2.6: Occupational distribution by gender, Ghana 2019

Categories	Male		Female		Total		Dominance
	%	'000	%	'000	%	'000	
Managers	58.2	70,349	41.8	50,505	1.3	120,854	**Male**
Professionals	53.9	390,948	46.1	333,056	7.8	724,004	**Mixed**
Technicians and associate professionals	76.4	150,632	23.6	46,402	2.1	197,034	**Male**
Clerical support workers	56.7	96,114	43.3	73,479	1.8	169,593	**Mixed**
Service and sales workers	22.8	563,303	77.2	1,910,966	26.7	2,474,269	**Female**
Skilled agricultural, forestry and fishery workers	55.7	1,644,404	44.3	1,305,401	31.8	2,949,805	**Mixed**
Craft and related trades workers	41.9	717,818	58.1	993,937	18.5	1,711,755	**Female**
Plant and machine operators, and assemblers	94.5	341,644	5.5	19,910	3.9	361,554	**Male**
Elementary occupations	54.9	309,123	45.1	252,948	6.1	562,071	**Mixed**
Total	46.2	4,284,335	53.8	4,986,604	100	9,270,939	**Female**

Source: Computed from the Ghana Statistical Service Labour force report (Ghana Statistical Service, 2019).

The data from table 2.6 shows the occupational distribution by gender in Ghana in 2019. The male workers dominate three occupations: 1. Managers (legislators, senior officials, administrative and production managers). 2. Technicians and associate professionals (health associate professionals, information and communications technicians, legal associate professionals). 3. Plant and machine operators (plant and machine operators, assemblers, mobile plant operators). Alternatively, Female workers have dominance in two occupations: 1. Service and sales workers; personal care workers, sales workers. 2. Craft and related trades workers; Building workers, electrical workers, handicraft workers. Mixed dominance of both male and female workers: 1.Professionals (Engineering professionals, health professionals, teaching professionals); 2.Clerical support workers (Customer service clerks, secretaries); 3.Skilled agricultural, forestry and fishery workers (Subsistence farmers, skilled agricultural workers); 4.Elementary workers (Cleaners, agricultural labourers, refuse workers) (ILOSTAT, 2020).

Comparing the occupational distribution of both countries, the female workers in both Ghana and Nigeria have dominance in Service and sales workers occupation while the male workers have dominance in the managers and plant and machine occupation. But unlike Nigeria, in Ghana, there is a high level of mixed dominance in these occupations: Professionals; Clerical support workers; Skilled agricultural; Elementary workers and overall, the female workers have higher representation in occupational employment than the male workers. Therefore, Nigeria has more gender-based employment segregation than Ghana.

Chapter 3

THEORETICAL FRAMEWORK AND LITERATURE REVIEW

3.1 Labour Force under the Classical and Marxist Feminist Economics

In every society, women have difficulties in finding employment and also have to deal with the patriarchy according to Armstrong (1991), from the contributions of Margaret Lowe Benston, women are kept away from the labour market because of their responsibility to increase the labour force by reproduction when there is economic growth and then be discharged when there is recession and thus the famous phrase “reserve army of labour” (Armstrong, 1991). As stated by (Delphy and Leonard, 1992), Women’s unpaid labour at home has been beneficial to their spouses as well as capitalism while being exploited in the process. Domestic work such as cooking, cleaning and childcare which is regarded as a gendered labour is performed by women for free but this same work requires pay if it is done outside the home and thus, domestic labour remains a woman’s perpetual duty and therefore not allowed to work while men are the breadwinners who participate in labour.

According to Enfield (2019), women are known to be managing family and have care duties around the world, and Nigeria is not an exception. Early marriage and the development of families play a crucial role in women's access to work and employment opportunities. For young women from disadvantaged backgrounds, it is

a more critical problem than for others. The girl child is more likely to leave school early than the male child, and therefore do not get a career and are much more likely than the male child to marry early. Less than 4 per cent of men are married at age 20, in rural areas, compared to women which are around 50 per cent. Early pregnancy arrives with early marriage, responsibilities and household duties that effectively exclude women from the labour market opportunities. Informal jobs and farming which are mostly less productive forms of the labour market which are also low earning labour opportunities are where women in Nigeria end up with although they have the same level of qualification and education as men who end up in the active part of the labour market (Enfield, 2019).

According to Marcal (2017) Right from the beginning, women's contribution have been ignored in Economics and this could be credited to the question 'how do we get our dinner?' asked by Adam Smith in his book the 'wealth of nations' in 1776 and he answered this with the famous answer "'It is not from the benevolence of the butcher, the brewer, or the baker, that we expect our dinner, but from their regard to their own interest" (Marçal, 2017, p. 12). And therefore self interest is the driving force to which contributes the process of the economy and also how dinner is made. Although he lived alone with his mother he ignored the fact his dinner had to be cooked in order to be put on the table which had to be done by her not just because of self interest but love, care and support. Thus, the market economy depends on the ignored economy made up of women's unpaid roles that contribute to an economy's GDP. Yakubu (2010) argued that, the patriarchal nature of the African society gave rise to the audacity men have in terms of ruling over women's freedom and labour participation the particular reason for this circumstance is as a result of the fact that

these African societies have designated responsibilities such as domestic labour as child and elderly care to women. Women spend up most of their time with such tasks in the society but they are never credited or even recognized as a contribution to national statistics (Yakubu, 2010).

3.1.1 Labour Market Inequality and Wage Gap

According to Fapohunda (2013), there are some beliefs in Nigeria in which women are superior in executing some particular activities while men are superior at others as well as some customs in the society where women are less appreciated than men who are seen as more skilled. Such customs influence the way individuals make decisions of their abilities when it comes to executing job related activities. Such beliefs result in having more male managers than female (Fapohunda, 2013).

Nwideeduh (1994) implied that because of cultural traditions in some societies, the girl child is excluded from going to school and only the male child are allowed to do so, majority of parents in Nigeria in error think that educating the girl child may hinder with their being married off which they believe is the sole purpose of being a woman. Thus, denying women the opportunity of high levels of literacy that could have earned them a place in the formal sector of the labour force (Nwideeduh, 1994).

Other than educational gender gap, why women earn less can be explained by horizontal segregations (Blau F. D. & Ferber, 1987). Meulders et al. described horizontal segregation as the situation where women and men are focused into particular sectors of profession of an economy (Meulders, Plasman, Rigo, & O'Dorchai, 2010). An example of horizontal segregation according to Hartman are situations where women are pushed to work as health and child caregivers and are usually regarded as work for women which have lower pay because of the nature of

the job, while work for men are in fields of engineering which of course have higher pay than women (Hartmann, 2014). The phrase ‘glass ceiling’ is associated with vertical segregation where the presence of seen or unseen barriers that prevent more women in participating in top positions in various sectors of an economy that will require decision making (Laufer, 2002).

The prevailing differences in the experiences women and men face within the Nigerian labour force have driven women to find other means of employment in self employment.

3.2 Self Employment and Entrepreneurship

Oxford Learner’s Dictionary (2021), defines entrepreneurship as the process of starting a business while taking risks in order to make profit. On the hand Merriam Webster online American dictionary defines a self-employed person as an individual who earns income from their trade, business or even profession instead of salary from an employer (Oxford Learner's Dictionary, 2021). There are various types of self employment, some of which are freelancing, independent contractor, seasonal staff, and independent business ownership which is an interest of the study.

Srivasta (2019) reported that a self employed individual starts up a business to be able to afford necessities and be able to pay bills, he or she is the boss who can decide to hire people to work for them, and the demise of the boss means the end of the business. An entrepreneur on the other hand starts up a business by taking financial risks with the aim of continuous expansion; they hire people to work with them such that even with their retirement or demise the business will still continue (Srivatsa, 2019).

Based on a study by Bosma et al (2014), the use of the word entrepreneurship is on the rise globally, and therefore as maintained by entrepreneurs, academic professionals as well as lawmaker entrepreneurship seen to be correlated with improved standard of living as well as development in the economy (Ernesto Amorós & Bosma, 2014).

According to David et al (1997), a number of factors can hinder the participation of women in the labour market one of which is the responsibility of women to balance domestic work with public work and for this reason, women engage more in self-employment and so substitute this for working in the public or private sector (Sahn & David, 1997).

As reported by Rao (2011), in the recent years, women began to see the necessity for entrepreneurship and therefore the reason for one-fifth and one-third of small start-ups being owned by women in France and Canada respectively. This has also encouraged the women in the U.S.A to engage in self-employment and therefore constituting the 25% of business ownership. The case is different in Japan and China where the dominance of women is twice as much as that of men (Rao, 2011).

In Nigeria, men and women engage in both self employment and entrepreneurship, where majority of the individuals in rural areas practice self employment like owning small provision stores usually by their door step, small scale farming, street food vendors as well as hawking, where they indulge in such practices are necessary driven for survival as gaining employment is a rare opportunity to them. Although men and women in the urban areas also engage in self employment, most of them are entrepreneurs. The Table 3.1 shows the percentage of women and men engage in

provision of food services, personal services and retail trade that are categorized into self employment and entrepreneurship.

3.2.1 Self Employment and Entrepreneurship by Gender

The data showing the self employment and entrepreneurship by gender in Nigeria in 2019 is shown in Table 3.1.

Table 3.1: Self-employment and entrepreneurship by gender, Nigeria 2019

Gender	Self Employment	Entrepreneurship	Self Employment &Entrepreneurship
Female	56%	55.9%	55.7%
Male	43.1%	42.9%	43.3%
Total	100%	100%	100%

Source: Computed from General Household Survey Panel Data (National Bureau of Statistics, 2020)

Although men and women both have high participation in self employment and entrepreneurship, there are still differences in their earnings. In a study by Hundley (2001), The differences between the earnings of self employed men and women arises these factors; (1) Human capital where the level of education, skills and working experience determines an individual's earning, (2) Financial capital, in which men have more advantage of accessing huge capital which in turn gives larger returns, (3) Production in the household, because women are responsible for household work, child and elderly care, fewer hours and energy are devoted to their businesses and thus lowering productivity and subsequently earnings, (4) Positions in Industry, due to the occupational segregation, men are placed in highly productive industry giving them the advantage of acquiring financial credit to boost their businesses that gives higher returns (Hundley, 2001).

Women in Nigeria through their engagement in small and micro businesses contribute to their communities' economic development as well as the country's process of industrialization (Dionco-Adetayo, 2005). Therefore there is a need to eliminate barriers that hinders women's participation in entrepreneurship. Bardasi (2007) suggested, hindrances that are gender based decreases possible growth because of the negative influence it has on the competition, production as well as development of the businesses of female entrepreneurs (Bardasi, 2007). Thus, it is necessary to eradicate these hindrances and see the need to encourage equal participation of men and women in the development of private sector that will subsequently enhance Africa's economic growth.

Although low labour participation of women is a reason to start up their own businesses, the 'push and pull' factor is another reason. According to Duchéneaut (1997), push factors such as unemployment, flexible working hours for women that perform family duties, discontentment of wage or salary employment as well as complementing family income which are necessity driven. Pull factors on the other hand are reasons in relay need for wealth accumulation, independence, entrepreneurship and attainment of power and social status (Duchéneaut, 1997).

According to Bajpai (2014), women have the tendencies to move African economies into sustainable growth through their businesses as they supply the amount of labour with limited resources available to them. The reasons for these are because most African countries are underdeveloped and backwards-looking. Although women in comparison to men have higher unemployment levels, if given the chance, without any form of restrictions in labour participation like gender-based discrimination and segregation, have the tendencies to invest in their family and societies at large with a

large share of the income they receive. Globally female entrepreneurs are on the rise and are consistently contributing to the Global Economy (Bajpai, 2014).

3.3 Previous Studies

This section discusses the similar studies regarding self employment and the determinants of self employment.

3.3.1 Self Employment in Nigeria

As reported by Oluranti (2011), Many Nigerian youths rely on commercial taxi operations for work and income, demonstrating the importance of the informal sector in the urban informal sector in South-West Nigeria. The majority of operators make more than the minimum wage, which may have attracted a large number of educated youth including university graduates who would otherwise be unemployed. Many of the operators have obtained some technical skills before their involvement in the okada riding business, while others are tertiary graduates who were forced to engage in the auto-cycle riding due to a lack of required formal employment (Ogunrinola, 2011).

Akpan et al (2013), suggested that college professors should consider self employment courses to be a means of equipping Nigerian graduates with the necessary entrepreneurial skills to be business owners, employers of labour, and valuable contributors to the country's economic development. These instructors should air their views on the importance of entrepreneurship education as a tool for graduate self-employment empowerment plan (Akpan, 2013).

According to Faloye et al (2018), Entrepreneurship education, risk-taking capacity, and support from family and friends, including a mentor, are the determinants of self

employment in this study were all linked to the research participants' entrepreneurship ambitions. As a result, this study concluded that more skills acquisition and innovation centers should be established across Nigeria to provide young graduates with the skills, knowledge, and attitudes needed to be self-sufficient, thereby assisting them in becoming job creators rather than job seekers, and in the long run, graduates unemployment and criminal activity among Nigerian youths will be reduced (Faloye, 2018).

3.3.2 Self Employment in Developed Countries

According to a study by Heintz et al (2012), engagement into self employment is frequently viewed as a result of decisions which were taken irrespective of the labour market conditions which have restrictions in its structure. Access to education, societal norms, distribution of assets are examples of the labour market structural restrictions. Participation in self employment has also been suggested to be either based on individual choice or as a feature of the formal labour market. This research therefore investigated the determinants of self employment in a non agricultural household in Ghana, using data from the Fifth Round of the Ghana Living Standards Survey (GLSS 5). The results from this investigation indicates that decisions to engage in self employment are, access to credit, education, household setting and also as an additional source of income. However this study provides evidence both men and women in Ghana have different experiences in the labour market and therefore have disparity in their self employment participation (Heintz, 2012).

As reported by Millàn et al (2010), the determinants of self employment as a necessity in Europe are categorized into two, Individuals who enter self employment as a solution to unemployment and individual who engage in self employment based

on their starting statuses, discrete choice models is the analysis used for this research was drawn by data derived from the European Community Household panel (1994-2001). The findings from this analysis suggested that there is a negative effect on the necessity driven self employment if individuals enter into self employment from unemployment. Hence, policymakers should make accessible those incentives that provide enough resources to sustain the survival chances of individuals who engage in self employment with different starting status and those who participate as a solution to unemployment (José Marıà Millàn, 2010).

Leoni et al (2008) in their study: Gender and field of study as determinants of self-employment, investigated the features of the men and women that are self employed, concentrating on how their field of study is a determinant of the gender gap in self employment. Through the application of non-linear decomposition technique on gender gap amongst Austrians with tertiary education in self employment. The findings of the research explain that the concentration of women in a particular field of study such as education and health services is an element contributing to the gender wage gap in self employment. Therefore, an individual's field of study as well as age is responsible for about two thirds of the observed self employment gender gaps (Leoni, 2008).

A study by Simeos et al (2016) implied that, self employment is not just an appealing option for those who are unemployed or those who earn less in their wage employment, but it is also a good option for progressive persons who want to take an alternative professional path. Therefore, the researchers of this study suggested that there are seven categories of factors that warrant an individual to engage in self employment. These factors are: (1) Individual attributes; (2) household background;

(3) personal features; (4) human capital; (5) state of health; (6) region; and (7) access to credit facilities (Simoes, 2016).

According to Pietrobelli et al (2004), in developing countries, there are obvious distinctions in the progressiveness of the rate of self employment. These countries provide evidence that shows how the rate of unemployment leads to early stages of entrepreneurship, thereby creating the illusion of zero unemployment during the years of economic depression. The study therefore investigates such distinctions for developing countries and developed countries using new empirical evidence that test the determinants of self employment using econometric techniques. The data drawn for the test are samples from 19 developed countries and 64 developing countries (1960-1990). The findings of this study implied the negative relation between the stage of development and self employment, that is to say, the self employment sector ceases to exist during the process of development (Pietrobelli, 2004).

A study by Dvouletý (2018), examined the determinants of self employment with or without employees. The study focuses on the self employment determinants in Europe through the use of the European Survey on Workings (2005, 2010, 2015) as well as evaluating the chances of an individual engaging in self employment, with or without employees. The results from this research suggested the differences in variables such as education, affects the nature of self employment, that is to say, engaging of solo self employment is determined by an individual's level of education and/or experience. Further findings suggested that an individual with a spouse is more likely to be engaged in self employment with employees than solo self employment (Dvouletý, Determinants of Self-Employment with and Without Employees: Empirical Findings from Europe, 2018).

According to Goetz et al (2013), Policymakers and economic developers have largely ignored the persistent rise in self employment since 2000. The authors recorded this up rise in self employment and find variables linked to it. The findings provide conflicting evidence about the importance of capital availability to self-employment growth, but they do show that different techniques are required according to the nature of different countries which if the goal is to boost future rural self-employment rates, reliance on how close the population is to the urban areas as well population size are important factors to consider. Earnings from self-employment and educational achievement, as well as the ethnic diversity of the population, all play a role. In both rural and urban counties, the size of population is important, but not so much within individual rural urban regions. Diversity of a country, earnings from self employment, as well the level of education are important determinants for self employment growth (Goetz & Rupasingha, 2013).

A study by Taniguchi (2002), which investigated the determinants of women's entry into self-employment, examined how work experience is necessary to engage in self employment, additionally, whether a woman wants to create her own business or get a wage/salary employment, experience is still important. Perhaps more importantly, this study revealed that minority women's lower average work experience explains their longer transitions into self-employment. Furthermore, the research suggested the marital status is also a significant factor in determining self employment. It also revealed that African Americans' lower marriage rates contribute to their longer transition into self-employment. However, the presence of little children does not dramatically speed up the process of self-employment, nor does it significantly slow it down. White women's transitions into self-employment are substantially aided by

older children, but their transitions into wage and salary positions follow a similar trend. In conclusion, our research gives only shaky support to the notion that working mothers can better balance their professions and family responsibilities through self-employment. in summary, having enough work experience and being married both enhance the rate at which women start their own businesses (Taniguchi, 2002).

In a study by Faridi et al (2020), many micro-determinants that could impact workers' decisions to enter the self-employment sector in Pakistan were identified and examined. A total of 494 workers from the Bahawalpur district were questioned. According to the findings, worker experience and age have a positive and significant impact on self-employment. Also, the study revealed that educational attainments, as well as the state of health, have a direct and significant relationship (Faridi, The Determinants of Self-Employment in Pakistan: Evidence from Primary data Analysis, 2020).

According to a study by Goetz (2006), taking into account a broader range of local economic and community factors that influence self-employment that have been previously studied, such factors have an impact on self-employment rates and returns in the United States. Individual-level socio-demographic variables capture the qualities of in county-level regression studies. Local county variables that affect self-employment or proprietorship formations are differentiated from these individual-level elements. While there is a substantial literature on self-employment and proprietorship formations, empirical research on the returns to self-employment is almost non-existent. The current analysis makes a significant contribution by revealing why self-employment returns differ across space. Thus, the analysis of the research demonstrates that self-employment has a significant independent role in the

emergence of wage-and-salary jobs. The effect, however, may be fading with time. The findings also show that wage-and-salary job growth is very spatially dependent (Goetz, 2006).

Based on the study by Reize (2000), when considering self-employment as a long-term solution to unemployment, employment among people who start their own business after being laid off appears to be more stable than employment would have been if they had gone to work for someone else. However, one cannot deduce from this that self-employment is the best path out of unemployment. The econometric research also shows that self-employment has a better level of stability than paid employment due to self-selection procedures. As a result, unemployed people who go into paid employment have a reduced probability of re-entering unemployment than those who go into self-employment after being laid off. Therefore, rather than being driven into a specific labour market position, an unemployed person chooses self employment as an activity that provides him or her with greater utility (Reize, 2000).

As reported by Zhao et al (2011), the While self employed individuals companies may be a beneficial driver of economic growth in developing countries, economic theory and empirical evidence imply that the self employment rate declines as a country progresses through the industrialization process. Self employment is found to be inversely connected with economic development stage in this study; that is, more developed provinces have a lower self employment rate. While self employed persons businesses used to be a major driver of economic growth in China during the early stages of reform, the negative relationship found in data from the last decade suggests that China has begun the process of rapid industrialization, and self

employed people are facing competition from more efficient economic agents, which is consistent with the explanatory hypothesis. In China, self employment is positively connected with a lack of wage work options and negatively correlated with education, implying that self-employment is a forced choice for disadvantaged people who are unqualified for wage jobs due to a lack of job opportunities (Zhao, 2011).

In a study by Lombard (2001), the investigation of why women prefer to engage in self employment work for themselves was prompted by the recent, significant surge in female self employment. While the researcher examined that non monetary factors play a role in a married woman's decision to work for herself, the results of the static empirical model used for the study showed that rising relative earnings potential as a self employed persons from 1979 to 1990 explains the majority of the upward trend in the participation of married women in self employment during such time period. The greater her relative earnings potential from being self employed, the greater her demand for a non standard work week, and also the greater her demand for flexibility, and if her spouse has health insurance, a married woman is more likely to choose self employment over wage-salary employment, according to this study. Non monetary job qualities, such as non standard hour choice and flexibility, appear to be less expensive in the self employment sector (Lombard, 2001).

A research by Nikolova et al (2010) on determinants of self employment in the United States, studied that a male immigrant living in the South with at least some college education who works numerous jobs and has some work experience is most likely to be self employed. A Southern Hispanic woman with a college education is most likely to avoid self employment. This image, while brief, does shed light on

some aspects of self-employment decisions and raises issues about others. Although statistically insignificant, the differing effects of several independent variables on women and men have offered some light on the nature, if not the reasons, of the genders' different self-employment rates. The impact of education on female entrepreneurs is especially fascinating. If the low rate of female entrepreneurs is an issue, additional schooling will only make it worse. Furthermore, if educated women do not choose to be self-employed, it follows that self-employed people are more likely to be uneducated. Because educated women are likely to have more employment options than uneducated women, it's plausible that this is proof that women are naturally averse to working for themselves. Whatever the underlying cause for this discovery, it implies that future research should focus on the variations in self-employment decisions between men and women (Nikolova, 2010).

According to Bruce (1999), the effect of a husband's self employment experience on the likelihood of a married woman becoming self employed is investigated in this research. According to a pooled transitional probit analysis, husbands play a significant role in this decision-making process. If woman’s husband was self employed the previous year, an unemployed or wage-and-salary wife is roughly twice as likely to enter self employment the following year, all other factors being equal. Prior to the transition phase or at any moment during the panel, having a husband with self employment experience has a slightly smaller but still substantial effect. While further research is needed to identify the relative importance of these or other theories, one apparent area for future research would be to look at the effects of a married woman's self-employment experience on her husband's likelihood of going into business for him. According to this author's preliminary research, self employed

wives had roughly comparable effects on their husbands' likelihood of becoming self employed. It would also be beneficial to estimate some type of joint model to eliminate the one-sided structure of the decision-making process. Allowing for simultaneous transitions raises a new set of empirical questions, but it may provide more intriguing results (Bruce, 1999).

As reported by Kuhn et al (2001), the research presented here clearly demonstrates that the changes in the underlying labour force flows that led to a significant increase in self employment in Canada between the 1980s and 1990s are significantly different for men and women. Between the two periods, declining wage-and-salary job prospects appear to have had a significant impact on men's self employment rates but no impact on women's. The majority of the secular growth in self employment among women, on the other hand, is connected with decreased exit rates from self employment, i.e., higher duration. The majority of the secular growth in self employment among women, on the other hand, is connected with decreased exit rates from self employment, i.e., higher duration. Three indices of the quality of new self employment opportunities – hours, earnings, and the presence of employees – all show an improvement for women in terms of income opportunities and a decrease for men. , as our findings show, a secular loss in paid-employment prospects pushed Canadian men into self-employment in the 1990s, our findings may have some interesting implications for economic policy. For example, the Unemployment Now Employment program offers self employment help options. Rather than producing high-quality new opportunities, the insurance system may be simply adding to the stock of unemployed males already crowding into self employment (Kuhn, 2001).

Blanchflower (2000), indicated how the article looks at the role and impact of self employment in the OECD countries. Since 1966, the overall trend of self employment at the economy level has been downward in most nations. Portugal, New Zealand, and the United Kingdom are the only countries where the trend has been upward. The self employment rate and the unemployment rate have a negative association in most nations. Men are more likely than women to be self employed, and the likelihood increases with age. The least educated have the greatest chance of being self employed, although evidence suggests that even the most well educated have a high chance. Employees have lower job satisfaction than self-employed people. There was no indication that increasing the self-employment rate enhanced the economy's actual growth rate; in fact, there was evidence to the contrary. Because of the attraction of their customers, self-employed people are less reluctant to leave their homes, towns, and regions than workers. In 1995, I created a flexibility index based on data provided by individuals. The US economy was the most flexible, followed by Canada, Germany, and the Netherlands, according to this measure. Latvia, Russia, and Hungary were judged to be the countries with the least flexibility. Austria and Ireland were the least developed of the OECD countries studied (Blanchflower D. G., 2000).

According to Carroll et al (1987), The likelihood of a person going into business for themselves at any point in their lives is highly influenced by previous self- or family work. Perhaps more importantly, we've seen how essential personal factors like religion influence some components of the self-employment process while others are unaffected. Similarly, the finding of increased "job" stability among self- and family employed addresses an issue that does not even arise to those who use a static

research methodology, yet this key implication of self- and family employment may attract many to these jobs. In terms of substance, these findings indicate that social institutions play a significant influence in determining who becomes self-employed. In general, Protestants are more likely than Catholics in West Germany to become self-employed, but the methods they use vary greatly depending on their career level and frequently include a step-by-step procedure that begins with family employment. Similarly, having self-employed parents affects a person's likelihood of becoming self-employed or family-employed, but only after they've already worked in some other capacity (Carroll, 1987).

Based on a study by Georgellis et al (2005), in the German labour market, there are significant gender inequalities in the decision to become self employed. It was discovered that, men are more responsive to the wage gap between salaried and self employment; liquidity constraints, as measured by wealth, are important for men considering self employment but not for women; and the link between father's self employment status and the probability of self employment is stronger for men. Women's labour market possibilities and vocational strategies may differ from mine, resulting in such disparities. Understanding gender variations in self-employment decisions could be useful in establishing and assessing programs aimed at stimulating the start-up of small enterprises while offering women and other ethnic minorities' preferential treatment. Because of higher time flexibility and other non monetary elements that cannot be directly reflected by pay differentials and typical economic variables, women find self-employment more appealing than men (Georgellis, 2005).

Dawson et al (2009), investigated the motivational variables cited by the self-employed in the United Kingdom as reasons for choosing self-employment are

examined in this research. Only a small amount of previous study has looked into why people choose self-employment. The data from the UK's large-scale labour force survey is used to answer two questions. The first is the degree to which self-employed people are self-employed due to necessity, opportunity, lifestyle choice, or vocational choice. The second question is if there is heterogeneity among self-employed people based on the reasons they give for going into business for themselves. On the basis of claimed motive, factor analysis indicates a number of different characteristics of entrepreneurship, but there is no evidence that being ‘forced' into entrepreneurship due to economic need is a significant factor. As a result, motivation for starting a business is multifaceted. An approach to control for self-selection into self-employment is used in multivariate regression analysis. This demonstrates considerable gender inequalities, with women being more concerned with lifestyle issues than with money gain. Higher educational attainment is more strongly connected with market-directed ‘opportunity' entrepreneurship. Those who join family enterprises do not appear to place a high weight on past schooling. As a result, public policy promoting entrepreneurship must be carefully targeted to particular demographics (Dawson, 2009).

According to Borjas (1986), self employment is a significant part of the immigrant labour market experience in the United States. The assumption that self-employed workers are a statistically insignificant element of the immigrant labour force cannot justify its absence in previous studies. In fact, self-employment rates among significant immigrant groups approach 15% of the work force. This paper continues its investigation of immigrant self-employment by examining the self-employment rates of 18 immigrant cohorts using data from the 1970s and 1980s in the United

States. The following were reported to be significant factors in the self employment participation of immigrants in the United States: Assimilation has a significant impact on the likelihood of self-employment: the longer an immigrant lives in the United States, the greater the likelihood of self-employment; There has been a dramatic rise in the number of people who work for themselves; Recent immigrant cohorts have more experience than older cohorts; The relative loss of opportunities may have generated across-cohort shifts. Over the previous few decades, immigrants in the paid sector have experienced numerous challenges; Immigrants are more likely than non-immigrants to be self-employed. The high rate of self-employment among immigrants (as well as native-born individuals) in the labour market indicates that much more effort is needed in this area. This paper's study shows that more research is needed. It is probable that the popularity of self employment and self employment incomes will grow considerably improve our understanding of the assimilation process for immigrants (Borjas, 1986).

Rupasingha et al (2012), implied that despite the fact that self employment is on the rise, authorities are mainly unaware of the trend and fail to perceive it as a way to address long-term unemployment. This is due in part to a lack of data on the self-employed and widespread perceptions that self-employment yields low returns, that self-employed people are merely patching together piecemeal work opportunities requiring limited skills, and that there are no local economic impacts or spill over benefits into other industries. Recent research, contrary to popular belief, reveals that self-employment provides substantial economic benefits, not just in terms of wage and salary employment, but also in terms of per capita income growth and poverty reduction. This paper examines the dynamics of the lags between self employment

shocks and subsequent job growth by synthesizing relevant new studies. Self employment is frequently considered as a desperate attempt by workers who have been laid off and are unable to find new work; it is seen as low-paying and giving little or no contribution to the local economy. It could also be a one-time occurrence that occurs as the economy recovers (Rupasingha, 2012).

According to Dunja et al (2017), Self employment is one of the most important components of labour market reorganization and economic recovery. This study examines self-employed people as members of the labour force in order to determine their similarities to entrepreneurs and employed people, as well as the characteristics that distinguish them as a distinct group. Self-employment is studied on a microeconomic level as well as at the human level, based on personal qualities. Self employment is influenced by two types of factors: “push” (self employment as a means of avoiding unemployment) and “pull” (self employment as a source of income) (self employment, which resembles the entrepreneurship). Self employment is more common among older individuals, men, in agriculture, and among persons who lack the requisite qualifications to establish a sustainable business, according to the findings. While the EU promotes self employment as a growth driver and a solution to unemployment among the most vulnerable workers, the research indicates that self employment is declining at the EU level. The dynamics of self employment in most nations are influenced by "push" factors, particularly during recessions, which have a significant impact on unemployment. It is argued that self-employment is a result of labour market discrimination and the incapacity to create new jobs in most EU nations, rather than a choice decision based on a perceived business opportunity. According to the findings, self employment has no positive impact on

macroeconomic metrics. Furthermore, due to the low proportion of self employed who are also employers, it plays a minor influence in employment creation (Dunja, 2017).

Chapter 4

DATA AND METHODOLOGY

4.1 Data

The type of data set used for this research is the annual time series data from 1990 to 2019 of the Nigerian population. A time series data set is made up of observations on one or more variables over a period of time. Time is an important element in a time series data since previous events can influence future events and lags in behaviour are prominent in the social sciences. A significant feature of time series data is that economic observations can rarely be considered to be independent over time (Wooldridge, 2012, p. 6).

4.1.1 Method of Data Collection

The method of data collection for this research is the quantitative approach that generates secondary data. According to Kabir (2016), quantitative data is a method of data collection that has a numerical form and can be measured mathematically. Random sampling and structured data collection tools are used in quantitative data collection, they generate outcomes that are simple to explain, contrast, and interpret. Secondary data is a form of quantitative data which is a method whereby information gathered are from a source that has already been published in some capacity (Kabir, 2016, pp. 203-205).

For this study, the source of the secondary data is from the database: The World Bank Development Indicators (World Bank, 2019) and The United Nations Human Development Reports (United Nations Development Program, 2020).

Table 4.1: Pool data for regression model

Year	Self employment '000	Average no. of Children	Average years of education	Paid employment '000	Poverty '000	Urbanization '000
1990	67,924	6.49	6.3	15,488	10,759,007	66,953,398
1991	70,713	6.44	6.5	15,643	11,329,445	68,195,447
1992	72,307	6.40	6.7	16,238	11,819,082	69,435,101
1993	73,719	6.35	6.9	16,138	13,042,995	70,676,603
1994	75,229	6.30	7.2	16,240	13,582,887	71,925,074
1995	76,778	6.26	7.4	17,201	14,680,974	73,183,576
1996	78,597	6.22	7.6	17,940	15,161,623	74,452,424
1997	80,415	6.19	7.8	18,182	15,770,615	75,736,392
1998	82,158	6.16	8.1	17,608	16,866,366	77,035,089
1999	84,009	6.13	8.3	18,252	18,008,268	78,349,086
2000	85,994	6.11	8.5	20,192	18,587,146	79,680,159
2001	88,231	6.08	8.8	20,027	20,439,229	80,667,244
2002	90,381	6.06	9	20,593	21,346,949	81,648,222
2003	93,009	6.04	9	23,274	22,291,207	82,627,833
2004	95,716	6.01	9.4	26,318	22,555,008	83,611,781
2005	98,575	5.99	9.7	28,511	23,410,433	84,604,898
2006	101,700	5.96	9.8	30,038	24,440,242	85,604,230
2007	104,766	5.93	10.1	32,045	25,656,895	86,605,458
2008	107,841	5.90	10.2	34,896	26,926,555	87,604,184
2009	110,354	5.87	10.4	36,045	28,100,419	88,601,034
2010	113,390	5.84	10.5	40,994	29,167,413	89,586,010
2011	116,836	5.80	11	45,813	30,432,615	90,574,978
2012	102,511	5.76	11.5	40,423	31,746,991	91,564,459
2013	89,086	5.71	12	35,524	32,944,074	92,550,859
2014	98,564	5.65	12	40,785	34,009,632	93,526,366
2015	109,947	5.59	12	44,031	35,633,796	94,484,919
2016	113,790	5.53	12.3	45,760	36,952,041	95,429,218
2017	122,108	5.46	12.9	50,917	38,307,810	96,354,724
2018	131,828	5.39	12.9	55,997	40,083,382	97,263,534
2019	142,514	5.32	13.4	60,020	45,216,811	98,156,653

Table 4.2: Male data for regression model

Year	Self employment '000	Average no. of Children	Average years of education	Paid employment '000	Poverty '000	Urbanization '000
1990	6,868	6.49	3.8	10,239	6,347,814	39,502,505
1991	7,028	6.44	3.9	10,500	6,684,373	40,235,314
1992	7,257	6.40	4.1	10,895	6,973,258	40,966,710
1993	7,176	6.35	4.2	10,805	7,695,367	41,699,196
1994	7,167	6.30	4.3	10,833	8,013,903	42,435,794
1995	7,528	6.26	4.5	11,432	8,661,775	43,178,310
1996	7,814	6.22	4.5	11,910	8,945,358	43,926,930
1997	7,880	6.19	4.5	12,054	9,304,663	44,684,471
1998	7,593	6.16	4.7	11,658	9,951,156	45,450,703
1999	7,822	6.13	4.7	12,039	10,624,878	46,225,961
2000	8,588	6.11	4.9	13,269	10,966,416	47,011,294
2001	8,527	6.08	5.1	13,181	12,059,145	47,593,674
2002	8,774	6.06	5.3	13,622	12,594,700	48,172,451
2003	9,880	6.04	5.3	15,353	13,151,812	48,750,421
2004	11,137	6.01	5.5	17,336	13,307,455	49,330,951
2005	12,042	5.99	5.6	18,748	13,812,155	49,916,890
2006	12,733	5.96	5.7	19,778	14,419,743	50,506,496
2007	13,613	5.93	5.9	21,112	15,137,568	51,097,220
2008	14,823	5.90	6	22,963	15,886,667	51,686,469
2009	15,333	5.87	6.1	23,758	16,579,247	52,274,610
2010	17,399	5.84	6.2	26,967	17,208,774	52,855,746
2011	19,415	5.80	6.5	30,046	17,955,243	53,439,237
2012	16,983	5.76	6.8	27,246	18,730,725	54,023,031
2013	14,766	5.71	7.1	24,615	19,437,004	54,605,007
2014	17,148	5.65	7.1	28,662	20,065,683	55,180,556
2015	18,439	5.59	7.1	30,970	21,023,940	55,746,102
2016	19,188	5.53	7.3	32,467	21,801,704	56,303,239
2017	21,640	5.46	7.6	35,598	22,601,608	56,849,287
2018	23,867	5.39	7.6	38,261	23,649,195	57,385,485
2019	25,517	5.32	7.7	39,970	26,677,918	57,912,425

Table 4.3: Female data for regression model

Year	Self employment '000	Average no. of Children	Average years of education	Paid employment' '000	Poverty '000	Urbanization '000
1990	61,056	6.49	2.5	5,249	4,411,193	27,450,893
1991	63,685	6.44	2.6	5,143	4,645,072	27,960,133
1992	65,050	6.40	2.6	5,343	4,845,824	28,468,391
1993	66,543	6.35	2.7	5,333	5,347,628	28,977,407
1994	68,062	6.30	2.9	5,407	5,568,984	29,489,280
1995	69,250	6.26	2.9	5,769	6,019,199	30,005,266
1996	70,783	6.22	3.1	6,030	6,216,265	30,525,494
1997	72,535	6.19	3.3	6,128	6,465,952	31,051,921
1998	74,565	6.16	3.4	5,950	6,915,210	31,584,386
1999	76,187	6.13	3.6	6,213	7,383,390	32,123,125
2000	77,406	6.11	3.6	6,923	7,620,730	32,668,865
2001	79,704	6.08	3.7	6,846	8,380,084	33,073,570
2002	81,607	6.06	3.7	6,971	8,752,249	33,475,771
2003	83,129	6.04	3.7	7,921	9,139,395	33,877,412
2004	84,579	6.01	3.9	8,982	9,247,553	34,280,830
2005	86,533	5.99	4.1	9,763	9,598,278	34,688,008
2006	88,967	5.96	4.1	10,260	10,020,499	35,097,734
2007	91,153	5.93	4.2	10,933	10,519,327	35,508,238
2008	93,018	5.90	4.2	11,933	11,039,888	35,917,715
2009	95,021	5.87	4.3	12,287	11,521,172	36,326,424
2010	95,991	5.84	4.3	14,027	11,958,639	36,730,264
2011	97,421	5.80	4.5	15,767	12,477,372	37,135,741
2012	85,528	5.76	4.7	13,177	13,016,266	37,541,428
2013	74,320	5.71	4.9	10,909	13,507,070	37,945,852
2014	81,416	5.65	4.9	12,123	13,943,949	38,345,810
2015	91,508	5.59	4.9	13,061	14,609,856	38,738,817
2016	94,602	5.53	5	13,293	15,150,337	39,125,979
2017	100,468	5.46	5.3	15,319	15,706,202	39,505,437
2018	107,961	5.39	5.3	17,736	16,434,187	39,878,049
2019	116,997	5.32	5.7	20,050	18,538,893	40,244,228

There was limitation while generating data of male and female data on poverty and urbanization and thus their pool data were divided into two in based on the percentage of their population.

4.2 Economic Model

The following are the macro socio-economic variables for both men and women in Nigeria to be used for the multiple regression analysis for this research;

Dependent variable: Self employment

Independent variables: Average years of education; Urbanization; Paid employment; Poverty; Average number of children per household. Thus, below are various literatures that suggest the causal relationship between the dependent and independent variable;

- **Average number of children per household;** The causal relationship between self employment and having children below 15 years of age is explained by a study by Andersson et al (2016), that suggested, a household with children increases self employment participation as it provides flexible working hours which is advantage for domestic responsibilities. (Andersson, 2016). Also a study carried out in the U.S by Blanchflower (2000), showed a positive correlation between the probability of engaging in self employment and children, thus, increasing the household demand for more income (Blanchflower D. , 2000).
- **Average years of education;** Level of education is a determinant factor of engaging in self employment, and therefore can either affect self employment participation negatively or positively. According to Lucas (1978), having higher level of education discourages individuals from participating in self employment as they aim for advanced career paths. However, Lucas also argued that engaging and remaining in self employment the higher an individual's the level of education as it provides the necessary skills.

- **Paid employment;** Birley et al. (1987), examined whether previous paid employment influences an individual's decision to engage in self employment, and thus concluded that previous paid work experience provides an experiential base for individuals as it provides managerial abilities required for a successful start-up as they seek to have a profitable business (Birley, 1987).
- **Poverty;** According to Fields (2019), individual's living in poverty as a result of unemployment engage in self employment as their only means of survival (Fields, 2019).
- **Urbanization;** Todaro et al (2012) proposed that, internal migration where individuals move from rural to urban areas within the country in search of better living standards seek employment in the formal sector but end up in the informal sector because the formal sector grows slower than the rate of migration (Todaro, 2012, p. 313).

Therefore, for this research, the equation below is derived to describe the dependent variable as a function of the independent variables;

self employment = f(education+ poverty + no of children + urbanization + no of paid employment).

Where *self employment* is the number of self employed people, *education* is the average years of schooling**,** *poverty* is the number of people living below purchasing power parity of $1.90 a day, *number of children* is the average number of children per household, *urbanization* is the number of people that migrated from rural to urban area from the age of 15 and above that migrate to urban areas, *number of paid employment* is the number of salaried and wage employment.

4.3 Methodology

The methodologies of the data analysis used are examined in the subsequent sections;

4.3.1 Unit Root Test

A unit root test is taken to determine if the mean and the variance of a time series data are stationary or not over all the time period. The Augmented Dickey-Fuller test (ADF) assumes the time series is an Auto Regressive 1 (AR1) process, and it is employed to determine if the time series of this research is stationary. The ADF tests determines whether or not the time series is stationary, (Dickey & Fuller, 1979, p. 366). The ADF model is specified;

$$\Delta Y_t = \alpha + \beta_t + \gamma Y_{t-1} + \sum_{j-1}^{\rho}(\delta_j \Delta_{t-j}) + e_t$$

Where;

- *t* is the time index,
- α is an intercept constant called a *drift*,
- β is the coefficient on a time trend,
- γ is the coefficient presenting process root, i.e. the focus of testing,
- *p* is the lag order of the first-differences autoregressive process,
- e_t is an independent identically distributes residual term.

The hypotheses for this model;

$$H_0: \gamma = 0 \qquad H_1: \gamma < 0$$

Where the null hypothesis states that there is a unit root in the time series and the alternative hypothesis states that there is no unit root in the time series data. The decision rule therefore is to reject the null hypothesis if the ADF t statistics is greater than the critical value at 5% significance.

The adjusted variable from the ADF test will henceforth be used for the multiple regression model.

4.3.2 Multiple Linear Regression Analysis

A multiple regression model is a more acceptable method of explaining the ceteris paribus analysis of how a dependent variable is affected by more than one independent variable since the model can simultaneously regulate many other variables that affects the dependent variables as opposed to the simple linear regression which only controls a single independent variable and thus give a misleading result (Wooldridge, 2012, p. 66).

A multiple linear regression equation is given;

$$y = \beta_0 + \beta_1 x_1 + \ldots \beta_k x_k + u$$

Where;

- y = dependent variable
- β_0 = Intercept
- β_i = coeffient of the independent variable
- x = independent variable
- u = error term

The regression used in this study adopts the log-log model in order to derive constant elasticity model. The log-log model from a Logarithmic transformation model is a situation where both dependent and independent variables are both log-transformed, thus, regression interpretation becomes the percentage change in the dependent variable when the independent variable increases in percentage (Benoit, 2011).

In this research, the variable *self* is the dependent variable while the variables *emplymnt*, *avgyrs*, *pvrty*, *avgchild*, *urban*, are the independent variables. Therefore, the regression equation for this study becomes;

$$\log(self) = \beta_0 + \beta_1 \log(emplymnt) + \beta_2 \log(pvrty) + \beta_3 \log(urban) + \beta_4\, avgyrs + \beta_5 avgchild + u$$

With the exception of the variables *avgyrs* and *avgchild*, the other independent variables as well as the dependent variable have all undergone logarithmic transformation. The multiple regression analysis for this study is therefore employed on both male and female variables combined and then separately for comparison. The ordinary least square is the chosen method of estimating the parameters of this research.

4.3.3 Ordinary Least Square Method

The ordinary least square method is adopted because it gives the best linear unbiased estimator of the regression. In research from (Goldberger, 1964), the OLS method estimates variables of a linear regression that are unexplained, by reducing the sum of the squares differences between the values of the observed dependent variables and the predicted independent variables in a given dataset.

The data from table 4.1 and 4.2 was used to estimate the regression equation above with the Eviews Econometrics Software Package in order to understand the relationship between the dependent and independent variables.

4.3.4 Hypothesis Test

A hypothesis test gives a proof to whether or not a regression result estimated is valid. Considering that the intercept and the coefficient of unemployment are unknown variables of the population, thus, in order to test a hypothesis, the values of

these parameters are assumed and tested with inferential statistics (Wooldridge, 2012, p. 116).

In order to carry out a hypothesis test, a few steps must be undertaken; define the null hypothesis, determine the kind of test to perform and then reject or fail to reject the null hypothesis. According to (Glenn, 2019) a null hypothesis is a hypothesis that maintains that there is no statistical relationship between the dependent and independent variables of a given population, in contradiction; the alternative hypothesis says that there is a relationship between the variables. The hypothesis is tested against two sided alternatives, where the null hypothesis (H_0: $\beta_j=0$) is tested against a two sided alternative (H_1: $\beta_j\neq0$).

Since this study investigates the determinants of the participation of men and women in self employment, from the regression above, after the independent variables have been tested for their significance individually, a joint hypotheses test is carried out to test whether the independent variables jointly affect the dependent variable. The null hypothesis states that the independent variables for the regression model are not significant determinants of the dependent variable while the alternative hypothesis states that the independent variables are significant to determine the dependent variable. The joint hypotheses tests are specified;

H_0: $\delta=0$ H_1: $\delta\neq0$

Where δ: $\beta_1=\beta_2=\beta_3=\beta_4=\beta_5$

The decision rule for joint hypotheses; if the probability value of the F-test generated from the regression is less than 5% significance level ($p< 0.05$), the independent

variables are jointly significant to influence the dependent variable and thus the null hypothesis is rejected in favour of the alternative hypothesis.

4.3.5 Goodness of fit

The goodness of fit for this model is the r-squared and adjusted r-squared. Although r-squared is commonly used in regression, it fails to decline even when a new variable has been added to the model making it an unreliable tool. Thus, the r-squared gives misleading conclusions and therefore the adjusted r-squared is more reliable. The advantage the adjusted r-squared has over the r-squared is that it enforces a penalty when a new independent parameter is added to the model and only increases if the test statistics of the new variable is greater than one in absolute value (Wooldridge, 2012, p. 39). The higher the value of the r-squared and adjusted r-squared is, the better the goodness of fit. The results of the unit root test and the multiple regression analysis estimated on the Eviews10 software are discussed in the next chapter.

Chapter 5

EMPIRICAL FINDINGS

5.1 Unit Root Test Results

The results of the Augmented Dickey Fuller (ADF) test statistics employed on the combined time series data for male and female as well as the separate result is shown in Table 5.1.

Table 5.1: Unit root test result

Combined			**t-Statistic**	**Prob.***
	Augument Dickey-Fuller test statisitc		-3.658531	0.0466
	Test critical values:	1% level	-4.416345	
		5% level	-3.622033	
		10% level	-3.248592	
Male			**t-Statistic**	**Prob.***
	Augument Dickey-Fuller test statisitc		-3.928694	0.0302
	Test critical values:	1% level	-4.498307	
		5% level	-3.658446	
		10% level	-3.268973	
Female			**t-Statistic**	**Prob.***
	Augument Dickey-Fuller test statisitc		-3.305900	0.0277
	Test critical values:	1% level	-3.788030	
		5% level	-3.012363	
		10% level	-2.646119	

Table 5.1 shows the dependent variable after transforming into the first difference by including the constant and linear trend variable into the ADF test resulted in the rejection of the null hypothesis which states that there is unit root in the differenced log of the dependent variable self employment [D(LSELF)] as the ADF test statistics is greater than the 5% test critical value in absolute value, thus, making the time series stationary.

For the male result, the dependent variable after transforming into the first difference by including the constant and linear trend variable into the ADF test resulted in the rejection of the null hypothesis thus, making the time series stationary.

On the other hand, in the female result, by incorporating just the constant variable to the ADF test applied on the time series data produced a stationary time series thus rejecting the null hypothesis as a result of the ADF test statistics being greater than the 5% test critical value.

5.2 Multiple Linear Regression Analysis Results

The results of the multiple regression analysis from the ordinary least square estimation, with the given set of annual time series data for the pool data of male and female as well as their separate results.

Table 5.2: Multiple regression analysis results

Combined	**Variable**	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**	**R-squared**	0.457516	**Mean dependent var**	0.025553
	C	-8.806410	16.30333	-0.540160	0.5943	**Adj. R-squared**	0.339585	**S.D dependent var**	0.050933
	LEMPLYMNT	0.122282	0.076734	1.593598	0.1247	**S.E. of regression**	0.041391	**Akaike info criterion**	-3.349493
	LPVRTY	-0.250715	0.422922	-0.592817	0.5591	**Sun squared resid**	0.039405	**Schwarz criterion**	-3.066604
	LURBAN	1.004609	1.283193	0.782898	0.4417	**Log likelihood**	54.56764	**Hann-Quinn criter.**	-3.260895
	AVGYRS	-0.151934	0.042973	-3.535569	0.0018	**F-statistic**	3.879511	**Durbin-Watson stat**	1.680010
	AVGCHILD	-0.843927	0.212846	-3.964972	0.0006	**Prob(F-statistic)**	0.010728		
Male	**Variable**	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**	**R-squared**	0.377311	**Mean dependent var**	0.045258
	C	-23.94818	23.10248	-1.036606	0.3107	**Adj. R-squared**	0.241944	**S.D dependent var**	0.068597
	LEMPLYMNT	0.332328	0.123732	2.685870	0.0132	**S.E. of regression**	0.059725	**Akaike info criterion**	-2.616139
	LPVRTY	-0.443172	0.604272	-0.733398	0.4707	**Sun squared resid**	0.082043	**Schwarz criterion**	-2.333251
	LURBAN	1.781992	1.826126	0.975832	0.3393	**Log likelihood**	43.93402	**Hann-Quinn criter.**	-2.527542
	AVGYRS	-0.248055	0.079582	-3.116990	0.0048	**F-statistic**	2.787314	**Durbin-Watson stat**	1.708901
	AVGCHILD	-0.479365	0.262042	-1.829347	0.0803	**Prob(F-statistic)**	0.041325		
Female	**Variable**	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**	**R-squared**	0.277071	**Mean dependent var**	0.022426
	C	-2.635563	19.06699	-0.138226	0.8913	**Adj. R-squared**	0.119913	**S.D dependent var**	0.050586
	LEMPLYMNT	0.025268	0.078315	0.322643	0.7499	**S.E. of regression**	0.047457	**Akaike info criterion**	-3.076009
	LPVRTY	-0.262407	0.497660	-0.527281	0.6030	**Sun squared resid**	0.051799	**Schwarz criterion**	-2.793121
	LURBAN	0.614753	1.496537	0.410784	0.6850	**Log likelihood**	50.60214	**Hann-Quinn criter.**	-2.987412
	AVGYRS	-0.177336	0.107312	-1.652527	0.1120	**F-statistic**	1.763004	**Durbin-Watson stat**	1.489316
	AVGCHILD	-0.610168	0.228973	-2.664809	0.0138	**Prob(F-statistic)**	0.160465		

The results of the pool time series data with 29 observations after adjustments from multiple regression with the differenced log dependent variable produced this model;

$$\log(self) = -8.81 + 0.12\log(emplymnt) - 0.25\log(pvrty) + 1.00\log(urban) - 0.15avgyrs - 0.84avgchild + u$$

Interpretation holding other factors fixed;

β_0 = The value -8.81 represents the expected mean value of self employment.

β_1 = A percentage increase in paid employment leads to the increase in self employment participation by 0.12%.

β_2 = A percentage increase in poverty level decreases participation in self employment by 0.25%.

β_3 = A percentage growth increase in urbanization increases the participation in self employment by 1%

β_4 =A year increase in the average years of education decreases the participation in self employment by 15%.

β_5 = An increase in the number of children in a household decreases self employment participation by 84%.

Thus, these variables tested individually at 5% significance level of their probability level show that the variables *avgyrs* and *avgchild* are the only significant variables. On the other hand, *emplymnt*, *pvrty* and urban have insignificant results as their probability value is greater than 5% ($p>0.05$)

Therefore, since the result represents the combined data, it is pertinent to separate the time series data into male and female and run the regression in order to ascertain if the macro variables are significant for either male or female.

The results of the male time series data with 29 observations after adjustments from multiple regression with the differenced log dependent variable produced this model;

$$\log(self) = -23.95 + 0.33\log(emplymnt) - 0.44\log(pvrty) + 1.78\log(urban) - 0.25avgyrs - 0.48avgchild + u$$

Interpretation holding other factors fixed;

β_0 = The value -23.95 represents the expected mean value of self employment.

β_1 = A percentage increase in paid employment leads to the increase in self employment participation by0 .33%.

β_2 = A percentage increase in poverty level decreases participation in self employment by 0.44%.

β_3 = A percentage growth increase in urbanization increases the participation in self employment by 1.78%

β_4 =A year increase in the average years of education decreases the participation in self employment by 25%.

β_5 = An increase in the number of children in a household decreases self employment participation by 48%.

The results of the female time series data with 29 observations after adjustments from multiple regression with the differenced log dependent variable produced this model;

$$\log(self) = -2.64 + 0.02\log(emplymnt) - 0.26\log(pvrty) + 0.61\log(urban) - 0.18avgyrs - 0.61avgchild + u$$

Interpretation holding other factors fixed;

β_0 = The value -2.64 represents the expected mean value of self employment.

β_1 = A percentage increase in paid employment leads to the increase in self employment participation by 0.02%.

β_2 = A percentage increase in poverty level decreases participation in self employment by 0.26%.

β_3 = A percentage growth increase in urbanization increases the participation in self employment by 0.61%

β_4 =A year increase in the average years of education decreases the participation in self employment by 18%.

β_5 = An increase in the number of children in a household decreases self employment participation by 61%.

Therefore, comparing the results of both male and female variables at a 5% significance level;

- History of salaried and wage employment has a positive effect on the male participation in self employment as it is statistically significant, while the female self employment participation is statistically insignificant and therefore cannot influence female self employment participation.
- Changes in the poverty level, does not affect self employment participation for both men and women, as both results are insignificant.
- The change in urbanization growth has no effect on the self employment participation for both men and women as they are both statistically insignificant.
- Years of schooling does not influence self employment participation of men and women which is based on their variable being statically insignificant.

- An increase in the number of children is a statistically significant variable that negatively affects the male and female self employment participation.

Although the literatures suggest that higher levels of education of leads to self employment participation, the results contradict this theory where by a year increase in the level of education decreases self employment participation. In addition the theory that suggests that history of paid employment leads to the engagement of self employment is also contradicted by the regression results. Table 5.3 displays the theoretical explanation of the positive and negative causality of self employment and the macro socio-economic variables based on the empirical findings.

Table 5.3: Causality of macro socio-economic variables

Macro socio-economic variables	**Positive causality (+)**	**Negative causality (-)**
Paid employment	✓	
Poverty		✓
Urbanization	✓	
Level of education		✓
No. of children		✓

Since some of the results are insignificant individually, a joint test was carried out to determine if these variables are jointly significant.

5.3 Hypothesis Test

5.3.1 Combined Result

The joint hypotheses for the combined variables are specified;

H_0: δ=0; States that the independent variables for the regression model are not significant determinants of the dependent variable.

H_1: δ≠0; States that the independent variables are significant to determine the dependent variable.

The result of the probability value for F statistics is 0.01 and is less than 5% significance level ($p< 0.05$) thus, the independent variables are jointly significant to influence the dependent variable and therefore the null hypothesis is rejected in favour of the alternative hypothesis.

5.3.2 Male Result

The joint hypotheses for the male variables are specified below;

H_0: δ=0; States that the independent variables for the regression model are not significant determinants of the dependent variable.

H_1: δ≠0; States that the independent variables are significant to determine the dependent variable.

The result of the probability value for F statistics is 0.04 and is less than 5% significance level ($p< 0.05$) thus, the independent variables are jointly significant to influence the dependent variable and therefore the null hypothesis is rejected in favour of the alternative hypothesis.

5.3.3 Female Result

The joint hypotheses for the male variables are specified below;

H_0: δ=0; States that the independent variables for the regression model are not significant determinants of the dependent variable.

H_1: $\delta \neq 0$; States that the independent variables are significant to determine the dependent variable.

The result of the probability value for F statistics is 0.16 which is greater than 5% significance level ($p > 0.05$) thus, the independent variables are jointly insignificant to influence the dependent variable and therefore we fail to reject the null hypothesis.

5.4 Goodness of Fit

5.4.1 Combined Result

The adjusted r-squared was approximately 0.34, means the independent variables cumulatively explains 34% variation of the dependent variable, the value of the r-squared was approximately 0.46, that is the combination of all the independent variables explains 46% variation of the dependent variable However, the low values of both r-squared and adjusted r-squared means the independent variables explain little variation of the dependent variable irrespective of their significance level.

5.4.2 Male Result

From the regression above, the value of the r-squared was approximately 0.38, that is the combination of all the independent variables explains 38% variation of the dependent variable. The adjusted r-squared on the other hand which is approximately 0.24, means the independent variables cumulatively explains 24% variation of the dependent variable. However, the low values of both r-squared and adjusted r-squared means the independent variables explain little variation of the dependent variable irrespective of their significance level.

5.4.3 Female Result

The r-squared from the regression result has a low value of approximately 0.28 which means that only 28% variation of the dependent variable is explained by the

combination of the independent variable. On the other hand, the adjusted r-squared has a very low value of approximately 0.12 thus, the independent variable cumulatively explains only 12% variation of the dependent variable which very low.

In summary, the combined result of the regression showed that the independent variables are jointly significant to affect the dependent variable, however, despite the individual significance of some independent variable of the female result, they are jointly insignificant. On the other hand, although some independent variables of the male result were insignificant individually, the F-test indicates that they are jointly significant.

Therefore, since the macro socio-variables tested jointly are insignificant determinants for the female self employment participation, it is important to ascertain conditions that lead to women engaging in self employment. According to Taniguchi (2002), a married woman has a higher chance of engaging in self employment than an unmarried woman, also women who have previously been engaged in self employment are more likely to participate in self employment, and in addition, a woman's ethnicity is also a determinant of self employment participation (Taniguchi, 2002). Furthermore, as reported by Allen et al (2014), since women are primary givers to their family, they tend to opt for self employment because it is time flexible, thus, time is a factor for engaging in self employment (Allen, 2014).

Chapter 6

CONCLUSION AND RECOMMENDATION

The conclusion and the policy recommendation of the study, which includes the limitation of this study, are discussed in this chapter.

6.1 Conclusion

Throughout this study, there are evidences to show that there is a large disparity in the Nigerian labour market between men and women. However, as a result of the nature of Nigeria's mono economy, majority of the nation's productivity are concentrated into the petroleum sector at the expense of the other sectors. The dependence of the whole country's economy on this sector has led to mass unemployment due to the low productivity of the other sectors. Although the female unemployment rate is not as high as the male unemployment rate, it still has a significant impact on the female labour market.

The labour market participation in occupational employment is compared between Nigeria and Ghana, thus, the evidence from the data provided indicates that there are more mixed representation between male and female workers in the various skills level of occupational employment in Ghana. Nigeria on the other hand showed evidence of horizontal occupational segregation, where the female workers are concentrated in low skills level of occupation, with male workers occupying high and middle skills level.

However, while comparing the Nigerian and Ghanaian employment by sector distribution, the male workers of both countries were concentrated in the Agriculture sector, a highly productivity sector while the female workers of both countries have a high representation in the low productive industrial and service sectors, thus, in terms of employment by sector, there is evidence of horizontal segregation in both Ghana and Nigeria.

The main focus of this research is the self employment sector, in this case, although both male and female workers have a high representation in this sector, the female representation still have somewhat higher representation.

Thus, the research examined if the macro socio-economic variables are significant determinants for engaging in self employment. The results from the multiple regression based on the analysis of the goodness of fit, the adjusted r-squared shows how the independent variables explains about 24% variation of self employment for the male analysis while the adjusted r squared for the female analysis which is about half of the male analysis was 12%. Both results are very low and thus suggest that the independent variables for both male and female explains little variation of self employment. However, the null hypothesis which states that the independent variables for the regression model are not significant determinants of the dependent variable is only true for the female results where the macro variables are jointly insignificant as opposed to the male results where the independent variables are jointly significant.

In summary, the macro socio-variables provided are not significant determinants of female self employment participation.

6.2 Policy Recommendation

The policy recommendations for this research are as follows;

- The incidence of unemployment in Nigeria has been attributed to its mono economy nature, and therefore, as a solution to unemployment, Nigeria should adopt the method of diversification in order to give attention to other sectors thereby creating employment opportunities.
- Policies like improving flexible working hours as wells improved paid family leave are examples of policies that should be implemented to increase the number of female labour market participation.
- Law makers should provide and implement legal frameworks as well as policies that eliminate the incidence of gender based employment segregation.
- Government should provide unrestricted access to business start up facilities especially for women in order encourage and improve the self employment sector which is crucial for the nation's economy.
- Nigeria should adopt the first goal of the sustainable development goals as a measure for the eradication of poverty.

6.3 Limitations of the Study and Recommendation for Further Study

The main limitation of this research is that the macro socio-economic variables used are insignificant to determine female self employment participation. For future study, Variables such as marital status and ethnicity are micro socio-economic variables that should be considered as significant determinants for female self employment.

Also, dynamic study should be undertaken in order to determine the various kinds of self-employment men and women engage in.

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